

Remarks/Arguments:

New claims 11-13 are presented. All prior claims are canceled.

Response to Claim Rejections – 35 USC §102 and 35 USC §103

Claims 1, 7, 8, and 9 were rejected under §102 as anticipated by Wright '063, which discloses a molded plastic container that is suitable to contain and dispense granular materials. In addition, claims 1-6 were rejected under §103 as obvious over Wright '063 in view of patents to Sovari, Cagan, Gentile, and Weinstein showing details of sub-elements of container structure.

New claim 11 defines a method of forming and filling a metal beverage container. The new claim 11 distinguishes from Wright and the other references in numerous aspects. It better identifies the area of art and the improvement achieved as compared to Wright. The area of art is metal beverage containers. Forming steps include the draw-and-iron process, which is significantly distinguished from Wright's molding process, to support this distinction. Forming steps also refer to seaming the first endwall to the sidewall, again bringing the technology into the area of metal containers was compared to the snap-in closure panel used by Wright. Reference to metal beverage containers is more than a substitution of materials, such as metal for Wright's plastic. The art of metal beverage containers is highly specialized and distinct from plastic molding processes.

The technical problems faced in producing metal beverage containers are distinct from that of plastic containers. Over a billion metal beverage containers are produced annually in the United States, alone. A sophisticated industry designs and produces these containers, endeavoring to optimize the design for best strength and performance, as well as to minimize the amount of metal required to produce each container. The importance of even subtle improvement in the highly engineered character of these containers is reflected in countless United States and foreign patents, sometimes recognizing tiny advances made by a change in a wall angle or a new curvature. Sidewalls now are produced with a thickness as little as 0.004 inches, which is amazingly thin and represents a high efficiency of metal usage. The technology that enables such efficient utilization is the draw-and-iron process. This process has been refined over decades

Applicant's conception is that significant metal savings still could be achieved as compared to the most modern of metal container designs if the top end of a metal container could be expanded and also be filled with beverage, so that the expanded top volume was practical and useful. This would enable metal savings by using the thicker

metal typically found in the endwalls of a container to create added volume. This advance faced the technical problem that beverage containers are filled through an open top, after which the top endwall with preformed dispensing opening is applied to close the open top. If the top endwall were configured to create a top expanded volume, the volume would be wasted. The expanded volume could not be filled by existing methods.

Applicant conceived a solution that is the subject of this application. An extended volume is created in the same endwall as the preformed dispensing opening, and the container is temporarily oriented with this expanded endwall on the bottom during the filling process, thereby filling the expanded volume and enabling the metal savings. After the opposite end is closed, the resulting structure is a metal beverage container with an expanded top volume formed of otherwise excess metal in the top end closure. The top end closure is defined by the presence of the preformed dispensing opening.

None of the art cited in this application shows a metal beverage container with other than a top closure panel that does not extend beyond a top seam, chime, or end line of the sidewall structure. The cited patents to Gentile, Sovari, Gordon, Beckertgis, Cafan, Majcen, and Götz all show metal containers with what might be called flat panels or at least top panels that do not extend above the seam line, chime, or other clearly identifiable end line of the sidewall. Other cited art is in the field of plastics. The art of metal beverage containers contains no anticipation of the invention.

As an element of proof, this amendment includes the Declaration of Roger Hahn, who has three decades of experience in the metal and plastic container industries. Mr. Hahn's declaration reports the significant distinctions between the plastic and metal container arts. With plastic containers such as that taught in the Wright Patent, the challenge of injection molding is to fill the mold with plastic, reflecting that the plastic must have sufficient flow to displace air in the mold. Accordingly, choosing a gross shape for a plastic container is constrained primarily by shape of the injection mold and is generally irrelevant to designing a metal beverage container. An engineered metal beverage container faces significantly different technical issues of how to efficiently employ metal, such as with wall thickness that is exceedingly thin.

The Wright patent shows only a resultant shape that has coincidental similarity to applicant's desired container, but in terms of anticipation or obviousness, the shape, alone, is not meaningful because it is a molded plastic product. The differences are so significant that, in Mr. Hahn's opinion, the teachings of Wright would be substantially meaningless in terms of suggesting a savings, shape, or advantage applicable to production of metal beverage cans.

Accordingly, Mr. Hahn's declaration speaks to both the novelty of the new claim 11 and to non-obviousness of this claim, as reflected in the distinguishing features

pointed out, above.

In summary, the patentability of claim 11 resides in the method of forming and bottom-filling of a metal beverage container with upwardly extended top panel that defines a dispensing opening.

Applicant requests all necessary extensions of time to file this amendment.

Conclusion

Applicant has clearly and specifically pointed out the patentability of each claim and the new result achieved by this invention. Accordingly, applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:) Confirmation No. 4815
WERTH, Elmer D.)
Serial No. 10/710,816)
Filed 08/04/2004)
For: Bottom-Fill Container and Opening System)

TC/AU 3781
Examiner MCKINLEY, Christopher Brian

Docket No. WER804.1
Customer No. 26092

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF ROGER HAHN

[0001] I, the undersigned Roger Hahn, declare as follows:

[0002] My background and experience that qualify me to make this affidavit includes over 30 years in the manufacturing of metal containers used in the beverage and aerosols can business. I also have 6 years experience in injection molding and blow molding of various plastic containers. I was employed for 20 years with a major beverage company and held the title of senior engineer. I am the inventor of numerous United States patents related to metal beverage containers, as well as patents on plastic beverage containers.

[0003] I have reviewed the Office Action issued in pending patent application of Elmer D. Werth, serial no. 08/04/2004 for Bottom-Fill Container and Opening System. In particular, I express my opinion regarding important differences that distinguish the invention of this application from cited disclosure to Wright (U.S. Patent 4,613,063).

[0004] The innovation in pending application 08/04/2004 is of a drawn and ironed metal (aluminum or steel) container which can contain a liquid pressurized product. By using an extended top end -- defined by presence of an opening tab or the like -- on the container body and then filling from the bottom so that the extra top volume can be filled, the patent application seeks to save some of the metal content. The drawn and ironed (D&I) process is used to minimize the amount of material needed to form the container, thus reducing the material cost of the container. Current beverage cans being used produced by the D&I process have container wall thicknesses of less than 0.004" thick. This reduced thickness in the container walls is a major cost saving when considering over 100 billion beverage cans are produced annually in the United States only.

[0005] The patent to Wright shows a plastic container, which is most likely produced by the injection molding process. In the injection molding process the container wall thickness must be large enough to insure even distribution of plastic material through out the mold cavity. This consideration limits the minimum amount of plastic that can be used per can. Thus a thin walled container described in the Elmer D. Wright application could not be produced by injection molding of plastic and also be capable of containing liquid under pressure.

[0006] The shape of a plastic container is constrained by the shape of a mold. Almost any practical shape can be made in a mold, with little if any concern for production practicality, but at the price of slowness. Molding is a relatively slow process, which disqualifies the use of molded cans from much modern canning operation, such as beverage canning, needing a large number of cans per minute.

[0007] The shape of a metal beverage can produced by the dominant draw-and-iron process is highly constrained by dynamics of high speed machinery, which produce such metal cans at a rate of about 300-400 cans per minute from a single can bodymaker. Considering the numbers of metal cans produced in the U.S. and the cost of the metal raw material, there is a strong incentive to save even a small fraction of the raw material. A small metal savings per container will result in huge economic advantage. A savings of a few percent of metal might result in hundreds of millions of dollars in annual savings for U.S. production, alone.

[0008] The economics, production methods, and potentials for cost savings between metal cans and plastic cans define two separate schools of thought. What is possible or practical in plastic cans means little or nothing to the designers of metal cans.

[0009] In my opinion, for the reasons stated, the shape shown in U.S. Patent 4,613,063 to Wright is meaningless in terms of suggesting a savings, shape, or advantage applicable to production of metal beverage cans.

VERIFICATION:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any document or any registration resulting therefrom.

Name

Date

/ Roger Hahn /

Nov. 2, 2007